

AGENDA
Signal and Image Sciences Conference
Center for Advanced Signal and Image Sciences
Lawrence Livermore National Laboratory

THURSDAY, NOVEMBER 20, 2008 BUILDING 482 AUDITORIUM

8:00 AM Registration, Distribution of Proceedings and Continental Breakfast
8:45 AM Opening Remarks, Introductions Stephen Azevedo, CASIS Director
8:55 AM Welcome from Engineering Monya Lane, Acting Engineering AD
9:00 AM Keynote Address: Information Theoretic Signal Processing Professor Jose Principe, University of Florida

10:00 AM **BREAK**

10:15 AM NIC Shot Data Information - Optical through Nuclear..... Dr. Otto Landen, Associate Program Leader for
Target Physics, ICF and HED Science Program,
NIF and Photon Science Directorate

NIF 1: Diagnostics Analysis
Session Chair: Tim Frazier

10:45 AM Measuring Drive Symmetry at NIF with Gated X-Ray Camera Images Steve Glenn
11:00 AM NIF Dante Target Diagnostic Analysis Judy Liebman
11:15 AM Near-backscatter Imaging (NBI) Analysis for the National Ignition Facility Essex Bond
11:30 AM Electromagnetic Pulses at Short-Pulse Laser Facilities: Measurement System,
Signal Processing Methods, and Simulation Results Charlie Brown
11:45 AM Cable Damage Detection Algorithms for Time Domain Reflectometry Signal Grace Clark

12:00 PM **LUNCH**

NIF 2: Controls and Optics Inspections
Session Chair: Karl Wilhelmsen

1:00 PM Alternative to Hough Transform-based Alignment Richard Leach
1:15 PM Avoiding the Highest Peaks (in correlation discrimination) Abdul Awwal
1:30 PM NIF Laser-Induced Optics Damage Data-Based Predictions and Visualizations Wade Williams
1:45 PM Applying Avatar Machine Learning to NIF Laura Kegelmeyer

2:00 PM **BREAK**

Radiation Detection for Homeland Security
Session Chair: Harry Martz

2:15 PM Hardware Architecture for Image Development Database (IDD) Project Faranak Nekoogar
2:30 PM Bayesian Sequential Processing for Radionuclide Parameter Estimation Eric Breitfeller
2:45 PM Signal Processing Model for Radiation Transport Dave Chambers
3:00 PM Adaptive Noise Cancellation for Mechanical HPGe Detectors Karl Nelson
3:15 PM Use of X-rays to Detect HomeMade Explosives (HME) and Next Generation
X-ray Systems Harry Martz
3:30 PM 3-1-1 Baggies Cary Pincus

3:45 PM **ADJOURN**

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FRIDAY, NOVEMBER 21, 2008 BUILDING 482 AUDITORIUM

8:00 AM	Registration, Distribution of Proceedings and Continental Breakfast	
8:45 AM	Opening Remarks, Introductions	Randy Roberts, CASIS Co-Director
9:00 AM	Innovative Technology for Global Security	Dr. Craig Wuest, Deputy Program Manager Z Program, Global Security Principle Directorate

Special Session
Pattern Recognition for Cyber Security:
Session Chair: Tina Eliassi-Rad

9:30 AM	Situational Awareness at Internet Scale—Detection of Extremely Rare Crisis Periods	Philip Kegelmeyer
9:50 AM	Analysing Network Traffic Data Using Latent Dirichlet Allocation for Graphs	Keith Henderson
10:10 AM	Classification of HTTP Attacks: A Study on the ECML/PKDD 2007 Discovery Challenge	Brian Gallagher
10:30 AM	BREAK	

Advanced Imaging and Controls
Session Chair: Sean Lehman

10:45 AM	VisiBuilding: Remote Non-Invasive Building Floor Plan Identification	Sean Lehman
11:00 AM	Predictive Control for Astronomical Adaptive Optics: Experimental Verification of the Frozen Flow Hypothesis	Lisa Poyneer
11:15 AM	Visualizing Single Cell Biology: Nanosims Studies of Carbon and Nitrogen Metabolism in Bacteria	Jennifer Pett-Ridge
11:30 AM	Using Supercomputers to Advance Robotics	Freddy Hansen

Wide-Area Surveillance Technologies
Session Chair: Randy Roberts

11:45 AM	Scalable Data Architectures for Object Identification and Synaptic Cueing in Wide-Area Video Imagery	Holger Jones
12:00 PM	Gigapan, Photosynth, and Stereo Data Maker	John Toeppen
12:15 PM	Novel Architectures and Progressive Algorithms for Real-Time Analysis of Streaming Data	Ming Jiang
12:30 PM	Vehicle Tracking and Super-Resolution in Overhead Video	Siddharth Manay
12:45 PM	Lunch and Adjourn	